

**REGULATION FOR THE CALIFORNIA LOW EMISSIONS AND REACTIVITY  
(CLEAR) PROGRAM FOR  
AEROSOL COATING PRODUCTS**

Adopt new Article 3.1, Aerosol Coating Products, sections 94530-94539, Title 17, California Code of Regulations, to read as follows:

**SUBCHAPTER 8.5 CONSUMER PRODUCTS**

**Article 3.1. Aerosol Coating Products**

**94530. Purpose and Applicability**

**(a) Purpose**

The purpose of this article is to provide a voluntary alternative method for manufacturers and marketers of aerosol coating products to comply with Title 17, California Code of Regulations, sections 94520-94528, (Aerosol Coatings Regulation).

**(b) Applicability**

This article may be used as an alternative means to comply with the Aerosol Coatings Regulation for any person who sells, supplies, offers for sale, applies, or manufactures aerosol coating products for use in the State of California. Unless modified by this Article 3.1, all other provisions of the Aerosol Coatings Regulation, sections 94520-94528, shall apply.

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.

**94531. Definitions**

(a) For the purposes of this article, except for the VOC definition found in section 94521(a)(62), all other definitions set forth in section 94521 of the Aerosol Coatings Regulation and the following additional definitions shall apply:

(1) “Absolute Maximum Incremental Reactivity” ( $MIR_{abs}$ ) means the grams of ozone formed per gram (g) of volatile organic compound (VOC) emitted. The units of an absolute MIR value are g  $O_3$ /g VOC.

- (2) “Adjusted Maximum Incremental Reactivity” ( $MIR_{ADJ}$ ) means the Absolute MIR value multiplied by the Uncertainty Factor as set forth in the Table of Specific MIR Values in section 94533(d).  $MIR_{ADJ}$  values are used to calculate both Product Weighted MIR (PWMIR) and CLEAR limits.
- (3) “Base Reactive Organic Gas” (ROG) means a mixture of reactive organic gases utilized in the parameters and definition of the absolute MIR scale. The base ROG is used to represent the range of chemical compositions resulting from a variety of conditions including anthropogenic emissions occurring in the ambient air of urban areas.
- (4) “CLEAR Limit” means the maximum product weighted reactivity allowed in an aerosol coating product in a specific category expressed as g  $O_3$ /g product.
- (5) “Kinetic Reactivity” (KR) means the fraction of VOC reacting in the atmosphere.
- (6) “ $k_{OH}$ ” means the reaction rate constant of the reaction of a hydroxyl (OH) radical with a VOC at ambient temperature and pressure.
- (7) “Maximum Incremental Reactivity” (MIR) means the maximum weight of ozone formed by adding a compound to the “base ROG” mixture per weight of compound added expressed to hundredths of a gram, (g  $O_3$ /g VOC). For the purposes of this article “MIR” means the absolute MIR value, unless otherwise noted.
- (8) “Mechanistic Reactivity” (MR) means the moles of ozone formed per mole of VOC reacting.
- (9) “Ozone” is a reactive toxic gaseous molecule consisting of three oxygen atoms, ( $O_3$ ). Ozone is a product of the photochemical processes involving sunlight and is the main ingredient in photochemical smog.
- (10) “Product-Weighted MIR” (PWMIR) means the sum of all weighted- $MIR_{ADJ}$  for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths in grams of ozone formed per gram of product (excluding container and packaging) and calculated according to the following equations:
  - (a) Weighted MIR (Wtd-MIR) ingredient =  $MIR_{ADJ} \times \text{Weight fraction VOC}$ ,
  - and,
  - (b) Product Weighted MIR =  $(Wtd-MIR)_1 + (Wtd-MIR)_2 + \dots + (Wtd-MIR)_N$

where,

$MIR_{ADJ}$  = ingredient MIR multiplied by the uncertainty multiplier;  
 $Wtd-MIR$  =  $MIR_{ADJ}$  of each ingredient in a product multiplied by the weight fraction of that ingredient, as shown in equation (10)(a);  
 1,2,3...N = each ingredient in the product up to the total N ingredients in the product.

- (11) “Reactive Organic Gas” (ROG) means, for the purposes of this article, the same as the “Volatile Organic Compound” (VOC) definition set forth in section 94521(a).
- (12) “Relative MIR” ( $MIR_{rel}$ ) means the ratio of the absolute MIR to the base ROG. The  $MIR_{rel}$  value is unitless.
- (13) “Uncertainty Factor” means a numerical ranking of the uncertainty of an MIR value as set forth in section 94533(d). The Absolute MIR is multiplied by the uncertainty factor to obtain  $MIR_{ADJ}$  for a VOC.
- (14) “Upper Limit MIR” (ULMIR) means the kinetic reactivity (KR) multiplied by the mechanistic reactivity (MR) and unit conversion factors. ULMIR is calculated with the following equation:

$$ULMIR = \text{Upper Limit KR} \times \text{Upper Limit MR}$$

The units for ULMIR are g O<sub>3</sub>/g VOC ingredient.

- (15) “Weight Fraction” means the ratio of the weight of an ingredient to the total net weight of the product, expressed to hundredths in grams of ingredient per gram of product (excluding container and packaging) and calculated according to the following equation:

$$\text{Weight Fraction} = \frac{\text{Weight of the ingredient}}{\text{Total product net weight (excluding container and packaging)}}$$

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.

## **94532. CLEAR Limits for Aerosol Coating Products**

- (a)(1) Except as specified in section 94532(a)(2),(b), (c), (d) and (e), all of the requirements of section 94522 shall apply.
- (2) As a voluntary alternative to the VOC limits specified in section 94522, a person may sell, supply, offer for sale, or manufacture for use in California any aerosol coating products which, at the time of sale or manufacture, has a PWMIR no greater than the CLEAR Limit, specified in the following Table of CLEAR Limits:

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**Table of CLEAR Limits**  
**(VOC Limits, expressed as percent by weight of product)**  
**(CLEAR Limits expressed as grams ozone per gram of product)**

	Effective Date	
	January 1, 2002	
	VOC Limit, wt%	CLEAR Limit
<b>General Coatings</b>		
Clear Coatings	50.0	1.60
Flat Paint Products	40.0	1.40
Fluorescent Coatings	60.0	1.50
Metallic Coatings	65.0	1.90
Nonflat Paint Products	45.0	1.50
Primers	40.0	1.10
<b>Specialty Coatings</b>		
Art Fixatives or Sealants	60.0	1.40
Auto Body Primers	45.0	1.60
Automotive Bumper and Trim Products	75.0	1.60
Aviation or Marine Primers	70.0	1.50
Aviation Propeller Coatings	70.0	2.60

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Specialty Coatings (continued)		
	Effective Date	
	January 1, 2002	
Corrosion Resistant Brass, Bronze, or Copper Coatings	70.0	1.60
Exact Match Finishes:		
Engine Enamel	50.0	1.50
Automotive	50.0	1.50
Industrial	70.0	0.90
Floral Sprays	70.0	0.80
Glass Coatings	65.0	1.50
Ground Traffic/Marking Coatings	45.0	1.30
High Temperature Coatings	60.0	1.80
Hobby/Model/Craft Coatings:		
Enamel	70.0	1.10
Lacquer	70.0	2.40
Clear or Metallic	80.0	1.60
Marine Spar Varnishes	60.0	0.90
Photograph Coatings	70.0	0.80
Pleasure Craft Finish Primers Surfacer or Undercoaters	70.0	0.70
Pleasure Craft Topcoats	55.0	0.90
Specialty Coatings (continued)		

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	Effective Date	
	January 1, 2002	
	VOC Limit, wt%	CLEAR Limit
Shellac Sealers:		
Clear	70.0	1.00
Pigmented	60.0	0.80
Slip-Resistant Coatings	60.0	1.00
Spatter/Multicolor Coatings	55.0	0.70
Vinyl/Fabric/Leather/ Polycarbonate	70.0	1.70
Webbing/Veil Coatings	80.0	0.90
Weld-Through Primers	50.0	1.00
Wood Stains	75.0	1.00
Wood Touch-Up, Repair, or Restoration Coatings	90.0	0.90

**(b) Products Containing Methylene Chloride.**

- (1) After the effective date of this article, for any aerosol coating product for which limits are specified in section 94532(a)(2), no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains methylene chloride. The requirements of this section 94532(b) shall not apply to (A) any existing product formulation that complies with the Table of CLEAR Limits and was sold in California during calendar year 1997, or (B) any product formulation that was sold in California during calendar year 1997 that is reformulated to meet the Table of CLEAR Limits as long as the content of methylene chloride in the reformulated product does not increase.
- (2) The requirements of section 94532(b)(1) shall not apply to any aerosol coating product containing methylene chloride that are present as impurities in a combined amount

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equal to or less than 0.01% by weight of the product.

- (c) **Multicomponent Kits Requirements for Products Formulated to meet CLEAR Limits.** Any person utilizing this article, shall not sell, supply, offer for sale, apply, or manufacture for use in California any multi-component kit, as defined in section 94521, in which the Kit PWMIR is greater than the total of all the CLEAR limits that would be allowed in the multi-component kit if each component product in the kit had separately met the applicable CLEAR Limit. Kit PWMIR and Total CLEAR are calculated as in equations (1), (2) and (3) below:

$$(1) \text{ Kit PWMIR} = (\text{PWMIR}_{(1)} \times W_1) + (\text{PWMIR}_{(2)} \times W_2) + \cdots + (\text{PWMIR}_{(n)} \times W_n)$$

$$(2) \text{ Total CLEAR} = (\text{CLEAR}_1 \times W_1) + (\text{CLEAR}_2 \times W_2) + \cdots + (\text{CLEAR}_n \times W_n)$$

$$(3) \text{ Kit PWMIR} \leq \text{Total CLEAR}$$

Where:

W = the weight of the product contents (excluding container)

CLEAR = the CLEAR Limit specified in section 94532(a)(2)

Subscript 1 denotes the first component product in the kit

Subscript 2 denotes the second component product in the kit

Subscript n denotes any additional component product

- (d) **Products Assembled by Adding Bulk Paint to Aerosol Containers of Propellant.** No person shall sell, supply, offer for sale, apply, or manufacture for use in the state of California any aerosol coating product assembled by adding bulk paint to aerosol containers of propellant, unless such products comply with either the limits in section 94522(a)(1) or the CLEAR limits specified in section 94532(a)(2).

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.

**94533. Assignment of Maximum Incremental Reactivity (MIR) Values**

For the purposes of this article, MIR values are assigned as follows:

- (a) All ingredients which do not contain carbon are assigned a MIR value of 0.0.
- (b) Except as specified in subpart (c) of this section 94533, each aerosol coating ingredient that contains at least one atom of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, or carbonates, and ammonium carbonate shall be assigned the adjusted MIR value set forth in section 95433(d).
- (c) Any aerosol coating solid, including but not limited to resins, pigments, fillers, plasticizers, and extenders is assigned a MIR value of 0.0.
- (d) **Table of Specific MIR Values**

## (1) Compounds

VOC Ingredient	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
1,1,3-Trimethyl Cyclohexane	1.670	1	1.670	Oct. 22, 1998
1,2,3-Trimethyl Benzene	11.901	1	11.901	Oct. 22, 1998
1,2,4-Trimethyl Benzene	7.494	1	7.494	Oct. 22, 1998
1,2-Butandiol	2.184	1	2.184	Oct. 22, 1998
1,2-Dihydroxy Hexane	2.548	1	2.548	Oct. 22, 1998
1,2-Epoxybutane	1.500	1	1.500	Oct. 22, 1998
1,3,5-Triethyl Cyclohexane	1.368	1	1.368	Oct. 22, 1998
1,3,5-Trimethyl Benzene	11.097	1	11.097	Oct. 22, 1998
1,3,5-Tripropyl Cyclohexane	0.990	1	0.990	Oct. 22, 1998
1,3-Butadiene	13.089	1	13.089	Oct. 22, 1998
1,3-Diethyl-5-Methyl Cyclohexane	1.554	1	1.554	Oct. 22, 1998
1,3-Diethyl-5-Pentyl Cyclohexane	1.208	1	1.208	Oct. 22, 1998
1,3-Diethyl-Cyclohexane	1.630	1	1.630	Oct. 22, 1998
1,3-Dimethyl Cyclohexane	2.148	1	2.148	Oct. 22, 1998
1,3-Dimethyl Cyclopentane	2.207	1	2.207	Oct. 22, 1998
1,3-Dipropyl-5-Butyl Cyclohexane	0.849	1	0.849	Oct. 22, 1998
1,3-Dipropyl-5-Ethyl Cyclohexane	1.086	1	1.086	Oct. 22, 1998
1,4-Diethyl-Cyclohexane	1.877	1	1.877	Oct. 22, 1998
1-Butanol	7.063	1	7.063	Oct. 22, 1998



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VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
1-Butene	10.798	1	10.798	Oct. 22, 1998
1-Ethoxy-2-Propanol	4.012	1	4.012	Oct. 22, 1998
1-Ethyl-2-Propyl Cyclohexane	1.188	1	1.188	Oct. 22, 1998
1-Ethyl-4-Methyl Cyclohexane	2.102	1	2.102	Oct. 22, 1998
1-Heptanol	2.340	1	2.340	Oct. 22, 1998
1-Heptene	5.071	1	5.071	Oct. 22, 1998
1-Hexanal	5.082	1	5.082	Oct. 22, 1998
1-Hexanol	2.835	1	2.835	Oct. 22, 1998
1-Hexene	6.296	1	6.296	Oct. 22, 1998
1-Methoxy-2-Propanol	3.228	1	3.228	Oct. 22, 1998
1-Methyl-2-Hexyl-Cyclohexane	0.833	1	0.833	Oct. 22, 1998
1-Methyl-2-Octyl Cyclohexane	0.655	1	0.655	Oct. 22, 1998
1-Methyl-3-Isopropyl Cyclohexane	1.528	1	1.528	Oct. 22, 1998
1-Methyl-4-Heptyl Cyclohexane	0.727	1	0.727	Oct. 22, 1998
1-Methyl-4-Nonyl Cyclohexane	0.589	1	0.589	Oct. 22, 1998
1-Methyl-4-Pentyl Cyclohexane	1.070	1	1.070	Oct. 22, 1998
1-Octanol	2.190	1	2.190	Oct. 22, 1998
1-Pentanal	6.090	1	6.090	Oct. 22, 1998
1-Pentene	8.165	1	8.165	Oct. 22, 1998
2-(2-Ethoxyethoxy) Ethanol	3.873	1	3.873	Oct. 22, 1998
2-(2-Methoxyethoxy) Ethanol	4.067	1	4.067	Oct. 22, 1998
2,2,3,3-Tetramethyl Butane	0.517	1	0.517	Oct. 22, 1998
2,2,3-Trimethyl Butane	1.576	1	1.576	Oct. 22, 1998
2,2,4-Trimethyl Pentane	1.688	1	1.688	Oct. 22, 1998
2,2,5-Trimethyl Hexane	1.638	1	1.638	Oct. 22, 1998
2,2-Dimethyl Butane	1.521	1	1.521	Oct. 22, 1998
2,2-Dimethyl Hexane	1.462	1	1.462	Oct. 22, 1998
2,2-Dimethyl Pentane	1.492	1	1.492	Oct. 22, 1998
2,2-Dimethyl-1-Propanal	5.740	1	5.740	Oct. 22, 1998
2,3,3-Trimethyl-1-Butene	5.176	1	5.176	Oct. 22, 1998
2,3,4-Trimethyl Pentane	1.519	1	1.519	Oct. 22, 1998
2,3,5-Trimethyl Hexane	1.617	1	1.617	Oct. 22, 1998
2,3-Dimethyl Butane	1.311	1	1.311	Oct. 22, 1998
2,3-Dimethyl Hexane	1.783	1	1.783	Oct. 22, 1998
2,3-Dimethyl Naphthalene	5.254	1	5.254	Oct. 22, 1998
2,3-Dimethyl Pentane	1.785	1	1.785	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
2,3-Dimethyl-1-Butene	5.061	1	5.061	Oct. 22, 1998

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2,3-Dimethyl-2-Butene	15.117	1	15.117	Oct. 22, 1998
2,4-Dimethyl Heptane	1.998	1	1.998	Oct. 22, 1998
2,4-Dimethyl Hexane	2.308	1	2.308	Oct. 22, 1998
2,4-Dimethyl Octane	1.576	1	1.576	Oct. 22, 1998
2,4-Dimethyl Pentane	1.853	1	1.853	Oct. 22, 1998
2,5-Dimethyl Hexane	2.215	1	2.215	Oct. 22, 1998
2,6-Diethyl Octane	1.455	1	1.455	Oct. 22, 1998
2,6-Dimethyl Nonane	1.289	1	1.289	Oct. 22, 1998
2,6-Dimethyl Octane	1.505	1	1.505	Oct. 22, 1998
2-Butoxy-Ethanol	3.234	1	3.234	Oct. 22, 1998
2-Butyl Tetrahydrofuran	2.851	1	2.851	Oct. 22, 1998
2-Ethoxy-Ethanol	4.128	1	4.128	Oct. 22, 1998
2-Ethoxyethyl Acetate	2.402	1	2.402	Oct. 22, 1998
2-Ethyl-1-Butene	5.297	1	5.297	Oct. 22, 1998
2-Ethyl-1-Hexanol	2.545	1	2.545	Oct. 22, 1998
2-Ethyl-Hexyl Acetate	1.081	1	1.081	Oct. 22, 1998
2-Heptanone	2.645	1	2.645	Oct. 22, 1998
2-Heptenes	7.075	1	7.075	Oct. 22, 1998
2-Hexanol	2.439	1	2.439	Oct. 22, 1998
2-Hexenes	8.462	1	8.462	Oct. 22, 1998
2-Methoxy-Ethanol	3.312	1	3.312	Oct. 22, 1998
2-Methyl Heptane	1.538	1	1.538	Oct. 22, 1998
2-Methyl Hexane	1.782	1	1.782	Oct. 22, 1998
2-Methyl Nonane	0.982	1	0.982	Oct. 22, 1998
2-Methyl Octane	1.225	1	1.225	Oct. 22, 1998
2-Methyl Pentane	2.072	1	2.072	Oct. 22, 1998
2-Methyl-1-Butene	7.141	1	7.141	Oct. 22, 1998
2-Methyl-1-Pentene	5.425	1	5.425	Oct. 22, 1998
2-Methyl-1-Propanal	6.218	1	6.218	Oct. 22, 1998
2-Methyl-2-Butene	17.105	1	17.105	Oct. 22, 1998
2-Methyl-2-Hexene	14.416	1	14.416	Oct. 22, 1998
2-Methyl-3-Hexanone	1.857	1	1.857	Oct. 22, 1998
2-Octanol	2.429	1	2.429	Oct. 22, 1998
2-Pentanol	1.930	1	1.930	Oct. 22, 1998
2-Pentanone	3.006	1	3.006	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
2-Pentenes	10.632	1	10.632	Oct. 22, 1998
2-Propoxyethanol	4.288	1	4.288	Oct. 22, 1998
3,3-Diethyl Pentane	1.616	1	1.616	Oct. 22, 1998
3,3-Dimethyl Pentane	1.559	1	1.559	Oct. 22, 1998
3,3-Dimethyl-1-Butene	7.169	1	7.169	Oct. 22, 1998

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3,5-Diethyl Heptane	1.658	1	1.658	Oct. 22, 1998
3,5-Dimethyl Heptane	2.158	1	2.158	Oct. 22, 1998
3,6-Dimethyl Decane	1.191	1	1.191	Oct. 22, 1998
3,6-Dimethyl Undecane	1.049	1	1.049	Oct. 22, 1998
3,7-Diethyl Nonane	1.252	1	1.252	Oct. 22, 1998
3,7-Dimethyl Dodecane	0.932	1	0.932	Oct. 22, 1998
3,7-Dimethyl Tridecane	0.803	1	0.803	Oct. 22, 1998
3,8-Diethyl Decane	0.870	1	0.870	Oct. 22, 1998
3,9-Diethyl Undecane	0.765	1	0.765	Oct. 22, 1998
3-Carene	3.592	1	3.592	Oct. 22, 1998
3-Ethoxy-1-Propanol	4.693	1	4.693	Oct. 22, 1998
3-Methoxy-1-Butanol	1.156	1	1.156	Oct. 22, 1998
3-Methoxy-3-Methyl-Butanol	2.179	1	2.179	Oct. 22, 1998
3-Methyl Decane	0.978	1	0.978	Oct. 22, 1998
3-Methyl Dodecane	0.750	1	0.750	Oct. 22, 1998
3-Methyl Heptane	1.781	1	1.781	Oct. 22, 1998
3-Methyl Hexane	2.221	1	2.221	Oct. 22, 1998
3-Methyl Nonane	1.189	1	1.189	Oct. 22, 1998
3-Methyl Pentadecane	0.561	1	0.561	Oct. 22, 1998
3-Methyl Tetradecane	0.610	1	0.610	Oct. 22, 1998
3-Methyl Tridecane	0.674	1	0.674	Oct. 22, 1998
3-Methyl Undecane	0.848	1	0.848	Oct. 22, 1998
3-Methyl-1-Butanal	5.872	1	5.872	Oct. 22, 1998
3-Methyl-1-Butene	8.060	1	8.060	Oct. 22, 1998
3-Methyl-1-Pentene	6.921	1	6.921	Oct. 22, 1998
3-Methylpentane	2.330	1	2.330	Oct. 22, 1998
3-Octanol	2.863	1	2.863	Oct. 22, 1998
3-Pentanol	1.829	1	1.829	Oct. 22, 1998
3-Pentanone	1.519	1	1.519	Oct. 22, 1998
4,8-Dimethyl Tetradecane	0.732	1	0.732	Oct. 22, 1998
4-Ethyl Heptane	1.935	1	1.935	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
4-Methyl Decane	1.090	1	1.090	Oct. 22, 1998
4-Methyl Heptane	1.958	1	1.958	Oct. 22, 1998
4-Methyl Nonane	1.366	1	1.366	Oct. 22, 1998
4-Methyl Octane	1.554	1	1.554	Oct. 22, 1998
4-Methyl-1-Pentene	6.654	1	6.654	Oct. 22, 1998
4-Methyl-2-Pentanone	4.684	1	4.684	Oct. 22, 1998
4-Octanol	3.236	1	3.236	Oct. 22, 1998
4-Propyl Heptane	1.639	1	1.639	Oct. 22, 1998
5-Methyl Dodecane	0.802	1	0.802	Oct. 22, 1998

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5-Methyl Undecane	0.937	1	0.937	Oct. 22, 1998
6-Methyl Tetradecane	0.658	1	0.658	Oct. 22, 1998
6-Methyl Tridecane	0.726	1	0.726	Oct. 22, 1998
7-Methyl Pentadecane	0.572	1	0.572	Oct. 22, 1998
Acetaldehyde	7.268	1	7.268	Oct. 22, 1998
Acetic Acid	0.672	1	0.672	Oct. 22, 1998
Acetone	0.482	1	0.482	Oct. 22, 1998
Acetylene	1.232	1	1.232	Oct. 22, 1998
Acrolein	8.088	1	8.088	Oct. 22, 1998
Alkyl Phenols	2.418	1	2.418	Oct. 22, 1998
Alkyl Phenols	2.418	1	2.418	Oct. 22, 1998
Alkyl Phenols	2.418	1	2.418	Oct. 22, 1998
Alkyl Phenols	2.418	1	2.418	Oct. 22, 1998
Alpha-Methyltetrahydrofuran	5.290	1	5.290	Oct. 22, 1998
Amyl Acetate	1.165	1	1.165	Oct. 22, 1998
α-Pinene	4.938	1	4.938	Oct. 22, 1998
Base ROG Mixture	3.928	1	3.928	Oct. 22, 1998
Benzaldehyde	0.000	1	0.000	Oct. 22, 1998
Benzene	0.999	1	0.999	Oct. 22, 1998
Biacetyl	22.680	1	22.680	Oct. 22, 1998
β-Pinene	3.499	1	3.499	Oct. 22, 1998
Branched C10 Alkanes	1.339	1	1.339	Oct. 22, 1998
Branched C11 alkanes	1.161	1	1.161	Oct. 22, 1998
Branched C12 Alkanes	1.041	1	1.041	Oct. 22, 1998
Branched C13 Alkanes	0.913	1	0.913	Oct. 22, 1998
Branched C14 Alkanes	0.816	1	0.816	Oct. 22, 1998
Branched C15 Alkanes	0.718	1	0.718	Oct. 22, 1998
Branched C16 Alkanes	0.649	1	0.649	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
Branched C17 Alkanes	0.612	1	0.612	Oct. 22, 1998
Branched C18 Alkanes	0.578	1	0.578	Oct. 22, 1998
Branched C5 Alkanes	1.934	1	1.934	Oct. 22, 1998
Branched C6 Alkanes	1.756	1	1.756	Oct. 22, 1998
Branched C7 Alkanes	1.927	1	1.927	Oct. 22, 1998
Branched C8 Alkanes	2.028	1	2.028	Oct. 22, 1998
Branched C9 Alkanes	1.730	1	1.730	Oct. 22, 1998
Butyl Cyclohexane	1.371	1	1.371	Oct. 22, 1998
C10 Bicycloalkanes	1.613	1	1.613	Oct. 22, 1998
C10 Cycloalkanes	1.590	1	1.590	Oct. 22, 1998
C10 Monosubstituted Benzenes	2.104	1	2.104	Oct. 22, 1998
C11 Bicycloalkanes	1.324	1	1.324	Oct. 22, 1998

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C11 Cycloalkanes	1.306	1	1.306	Oct. 22, 1998
C11 Monosubstituted Benzenes	1.905	1	1.905	Oct. 22, 1998
C12 Bicycloalkanes	1.143	1	1.143	Oct. 22, 1998
C12 Cycloalkanes	1.129	1	1.129	Oct. 22, 1998
C12 Disubstituted Naphthalenes	5.254	1	5.254	Oct. 22, 1998
C12 Monosubstituted Benzenes	1.740	1	1.740	Oct. 22, 1998
C12 Monosubstituted Naphthalenes	4.062	1	4.062	Oct. 22, 1998
C13 Bicycloalkanes	0.958	1	0.958	Oct. 22, 1998
C13 Cycloalkanes	0.947	1	0.947	Oct. 22, 1998
C13 Monosubstituted Benzenes	1.602	1	1.602	Oct. 22, 1998
C14 Bicycloalkanes	0.849	1	0.849	Oct. 22, 1998
C14 Cycloalkanes	0.840	1	0.840	Oct. 22, 1998
C15 Bicycloalkanes	0.770	1	0.770	Oct. 22, 1998
C15 Cycloalkanes	0.763	1	0.763	Oct. 22, 1998
C3 Aldehydes	8.302	1	8.302	Oct. 22, 1998
C4 Aldehydes	7.063	1	7.063	Oct. 22, 1998
C4 Internal Alkenes	14.163	1	14.163	Oct. 22, 1998
C4 Ketones	1.324	1	1.324	Oct. 22, 1998
C4 Terminal Alkenes	10.798	1	10.798	Oct. 22, 1998
C5 Aldehydes	6.089	1	6.089	Oct. 22, 1998
C5 Internal Alkenes	10.632	1	10.632	Oct. 22, 1998
C5 Ketones	3.006	1	3.006	Oct. 22, 1998
C5 Terminal Alkenes	8.165	1	8.165	Oct. 22, 1998
C6 Aldehydes	5.082	1	5.082	Oct. 22, 1998
C6 Cyclic Ketones	1.727	1	1.727	Oct. 22, 1998
C6 Cycloalkanes	1.964	1	1.964	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
C6 Internal Alkenes	8.462	1	8.462	Oct. 22, 1998
C6 Ketones	3.716	1	3.716	Oct. 22, 1998
C6 Terminal Alkenes	6.296	1	6.296	Oct. 22, 1998
C7 Cyclic Ketones	1.511	1	1.511	Oct. 22, 1998
C7 Cycloalkanes	2.107	1	2.107	Oct. 22, 1998
C7 Internal Alkenes	7.075	1	7.075	Oct. 22, 1998
C7 Ketones	2.645	1	2.645	Oct. 22, 1998
C7 Terminal Alkenes	5.071	1	5.071	Oct. 22, 1998
C8 Cycloalkanes	1.998	1	1.998	Oct. 22, 1998
C8 Disubstituted Benzenes	7.811	1	7.811	Oct. 22, 1998
C9 Bicycloalkanes	1.969	1	1.969	Oct. 22, 1998
C9 Cycloalkanes	1.937	1	1.937	Oct. 22, 1998
C9 Disubstituted Benzenes	6.898	1	6.898	Oct. 22, 1998
C9 Monosubstituted Benzenes	2.349	1	2.349	Oct. 22, 1998

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C9 Trisubstituted Benzenes	10.174	1	10.174	Oct. 22, 1998
Carbon Monoxide	0.067	1	0.067	Oct. 22, 1998
Cis-2-Butene	13.805	1	13.805	Oct. 22, 1998
Cis-2-Hexene	8.462	1	8.462	Oct. 22, 1998
Cis-2-Pentene	10.620	1	10.620	Oct. 22, 1998
Cis-3-Hexene	8.433	1	8.433	Oct. 22, 1998
Cis-3-Methyl-2-Hexene	14.736	1	14.736	Oct. 22, 1998
Crotonaldehyde	10.122	1	10.122	Oct. 22, 1998
Cyclobutane	1.239	1	1.239	Oct. 22, 1998
Cycloheptane	2.291	1	2.291	Oct. 22, 1998
Cyclohexane	1.964	1	1.964	Oct. 22, 1998
Cyclohexanol	2.789	1	2.789	Oct. 22, 1998
Cyclohexanone	1.727	1	1.727	Oct. 22, 1998
Cyclooctane	1.854	1	1.854	Oct. 22, 1998
Cyclopentane	2.607	1	2.607	Oct. 22, 1998
Cyclopentanol	2.043	1	2.043	Oct. 22, 1998
Cyclopropane	0.112	1	0.112	Oct. 22, 1998
D4 Cyclosiloxane	0.000	1	0.000	Oct. 22, 1998
D5 Cyclosiloxane	0.000	1	0.000	Oct. 22, 1998
Decyl Cyclohexane	0.591	1	0.591	Oct. 22, 1998
Decyl Cyclopentane	0.000	1	0.000	Oct. 22, 1998
Di n-Propyl Ether	3.559	1	3.559	Oct. 22, 1998
Diacetone Alcohol	0.958	1	0.958	Oct. 22, 1998
Diethyl Ether	4.212	1	4.212	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
Diethylene Glycol	4.514	1	4.514	Oct. 22, 1998
Di-Isobutyl Ether	2.389	1	2.389	Oct. 22, 1998
Di-Isopropyl Carbonate	0.901	1	0.901	Oct. 22, 1998
Di-Isopropyl Ketone	1.878	1	1.878	Oct. 22, 1998
Dimethyl Adipate	1.929	1	1.929	Oct. 22, 1998
Dimethyl Ether	1.018	1	1.018	Oct. 22, 1998
Dimethyl Glutarate	0.585	1	0.585	Oct. 22, 1998
Dimethyl Naphthalenes	5.254	1	5.254	Oct. 22, 1998
Dimethyl Succinate	0.410	1	0.410	Oct. 22, 1998
Di-n-butyl Ether	3.450	1	3.450	Oct. 22, 1998
Di-n-Pentyl Ether	3.461	1	3.461	Oct. 22, 1998
Dipropylene Glycol	3.371	1	3.371	Oct. 22, 1998
d-Limonene	4.598	1	4.598	Oct. 22, 1998
Ethane	0.355	1	0.355	Oct. 22, 1998
Ethanol	1.918	1	1.918	Oct. 22, 1998
Ethene	9.973	1	9.973	Oct. 22, 1998

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Ethyl 3-Ethoxy Propionate	2.971	1	2.971	Oct. 22, 1998
Ethyl Acetate	0.800	1	0.800	Oct. 22, 1998
Ethyl Benzene	2.971	1	2.971	Oct. 22, 1998
Ethyl Butyrate	1.250	1	1.250	Oct. 22, 1998
Ethyl Cyclopentane	2.320	1	2.320	Oct. 22, 1998
Ethyl Formate	0.482	1	0.482	Oct. 22, 1998
Ethyl Isopropyl Ether	4.754	1	4.754	Oct. 22, 1998
Ethyl Lactate	2.779	1	2.779	Oct. 22, 1998
Ethyl n-Butyl Ether	3.880	1	3.880	Oct. 22, 1998
Ethyl Propionate	0.862	1	0.862	Oct. 22, 1998
Ethyl t-Butyl Ether	2.835	1	2.835	Oct. 22, 1998
Ethylcyclohexane	1.998	1	1.998	Oct. 22, 1998
Ethylene Glycol	5.662	1	5.662	Oct. 22, 1998
Ethylene Oxide	0.087	1	0.087	Oct. 22, 1998
Formaldehyde	9.120	1	9.120	Oct. 22, 1998
Formic Acid	0.181	1	0.181	Oct. 22, 1998
Glutaraldehyde	5.119	1	5.119	Oct. 22, 1998
Glycerol	3.758	1	3.758	Oct. 22, 1998
Glyoxal	14.386	1	14.386	Oct. 22, 1998
Heptyl Cyclohexane	0.804	1	0.804	Oct. 22, 1998
Heptyl Cyclopentane	0.000	1	0.000	Oct. 22, 1998
Hexamethyldisiloxane	0.000	1	0.000	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
Hexyl Cyclohexane	0.954	1	0.954	Oct. 22, 1998
Hydroxy Acetone	3.065	1	3.065	Oct. 22, 1998
Hydroxy Methacrolein	6.799	1	6.799	Oct. 22, 1998
Hydroxymethyldisiloxane	0.000	1	0.000	Oct. 22, 1998
isoamyl Isobutyrate	1.064	1	1.064	Oct. 22, 1998
isobutane	1.564	1	1.564	Oct. 22, 1998
isobutene	6.806	1	6.806	Oct. 22, 1998
isobutyl Acetate	1.075	1	1.075	Oct. 22, 1998
isobutyl Alcohol	2.473	1	2.473	Oct. 22, 1998
isobutyl Isobutyrate	0.865	1	0.865	Oct. 22, 1998
iso-Pentane	1.934	1	1.934	Oct. 22, 1998
isoprene	11.475	1	11.475	Oct. 22, 1998
isoprene Product #1	7.867	1	7.867	Oct. 22, 1998
isoprene Product #2	7.867	1	7.867	Oct. 22, 1998
isoprene Product #3	7.864	1	7.864	Oct. 22, 1998
isopropyl Acetate	1.210	1	1.210	Oct. 22, 1998
isopropyl Alcohol	0.811	1	0.811	Oct. 22, 1998
isopropyl Benzene (Cumene)	2.482	1	2.482	Oct. 22, 1998

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sopropyl Cyclopropane	1.651	1	1.651	Oct. 22, 1998
Methacrolein	6.467	1	6.467	Oct. 22, 1998
Methane	0.015	1	0.015	Oct. 22, 1998
Methanol	0.992	1	0.992	Oct. 22, 1998
Methoxy Acetone	2.247	1	2.247	Oct. 22, 1998
Methyl Acetate	0.118	1	0.118	Oct. 22, 1998
Methyl Butyrate	0.989	1	0.989	Oct. 22, 1998
Methyl Formate	0.139	1	0.139	Oct. 22, 1998
Methyl Glyoxal	17.375	1	17.375	Oct. 22, 1998
Methyl Isobutyrate	0.424	1	0.424	Oct. 22, 1998
Methyl Isopropyl Carbonate	0.900	1	0.900	Oct. 22, 1998
Methyl Lactate	2.814	1	2.814	Oct. 22, 1998
Methyl Naphthalenes	4.468	1	4.468	Oct. 22, 1998
Methyl Naphthalenes	4.468	1	4.468	Oct. 22, 1998
Methyl n-Butyl Ether	3.941	1	3.941	Oct. 22, 1998
Methyl n-Butyl Ketone	3.716	1	3.716	Oct. 22, 1998
Methyl t-Amyl Ether	3.068	1	3.068	Oct. 22, 1998
Methyl t-Butyl Ether	1.341	1	1.341	Oct. 22, 1998
Methyl t-Butyl Ketone	1.044	1	1.044	Oct. 22, 1998
Methylcyclohexane	2.107	1	2.107	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
Methylcyclopentane	2.402	1	2.402	Oct. 22, 1998
Methylvinyl ketone	10.016	1	10.016	Oct. 22, 1998
m-Xylene	11.060	1	11.060	Oct. 22, 1998
Naphthalene	3.052	1	3.052	Oct. 22, 1998
n-Butane	1.438	1	1.438	Oct. 22, 1998
n-Butoxy-2-Propanol	3.324	1	3.324	Oct. 22, 1998
n-Butyl Acetate	1.139	1	1.139	Oct. 22, 1998
n-Butyl Alcohol	3.525	1	3.525	Oct. 22, 1998
n-Butyl Benzene	2.104	1	2.104	Oct. 22, 1998
n-Butyl Butyrate	1.304	1	1.304	Oct. 22, 1998
n-Butyl Formate	0.957	1	0.957	Oct. 22, 1998
n-C16	0.528	1	0.528	Oct. 22, 1998
n-C17	0.497	1	0.497	Oct. 22, 1998
n-C18	0.470	1	0.470	Oct. 22, 1998
n-C19	0.445	1	0.445	Oct. 22, 1998
n-C20	0.423	1	0.423	Oct. 22, 1998
n-C21	0.403	1	0.403	Oct. 22, 1998
n-C22	0.385	1	0.385	Oct. 22, 1998
n-Decane	0.932	1	0.932	Oct. 22, 1998
n-Dodecane	0.722	1	0.722	Oct. 22, 1998

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Neopentane	0.794	1	0.794	Oct. 22, 1998
n-Heptane	1.434	1	1.434	Oct. 22, 1998
n-Hexane	1.688	1	1.688	Oct. 22, 1998
N-Methyl-2-Pyrrolidone	2.785	1	2.785	Oct. 22, 1998
n-Nonane	1.073	1	1.073	Oct. 22, 1998
n-Octane	1.243	1	1.243	Oct. 22, 1998
Nonyl Cyclohexane	0.646	1	0.646	Oct. 22, 1998
Nonyl Cyclopentane	0.000	1	0.000	Oct. 22, 1998
n-Pentadecane	0.570	1	0.570	Oct. 22, 1998
n-Pentane	1.744	1	1.744	Oct. 22, 1998
n-Propoxy Ethanol	3.562	1	3.562	Oct. 22, 1998
n-Propyl Alcohol	2.974	1	2.974	Oct. 22, 1998
n-Propyl Benzene	2.349	1	2.349	Oct. 22, 1998
n-Propyl Butyrate	1.222	1	1.222	Oct. 22, 1998
n-Propyl Formate	0.879	1	0.879	Oct. 22, 1998
n-Propyl Propionate	0.985	1	0.985	Oct. 22, 1998
n-Tetradecane	0.605	1	0.605	Oct. 22, 1998
n-Tridecane	0.660	1	0.660	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
n-Undecane	0.823	1	0.823	Oct. 22, 1998
Octyl Cyclohexane	0.711	1	0.711	Oct. 22, 1998
Octyl Cyclopentane	0.000	1	0.000	Oct. 22, 1998
p-Xylene	7.833	1	7.833	Oct. 22, 1998
Pentyl Alcohol	3.420	1	3.420	Oct. 22, 1998
Pentyl Cyclohexane	1.181	1	1.181	Oct. 22, 1998
Propane	0.644	1	0.644	Oct. 22, 1998
Propene	12.445	1	12.445	Oct. 22, 1998
Propionic Acid	1.373	1	1.373	Oct. 22, 1998
Propyl Acetate	0.975	1	0.975	Oct. 22, 1998
Propyl Cyclohexane	1.773	1	1.773	Oct. 22, 1998
Propyl Cyclopentane	2.040	1	2.040	Oct. 22, 1998
Propylene Carbonate	0.281	1	0.281	Oct. 22, 1998
Propylene Glycol	2.654	1	2.654	Oct. 22, 1998
Propylene Glycol Methyl Ether Acetate	1.993	1	1.993	Oct. 22, 1998
Propylene Oxide	0.422	1	0.422	Oct. 22, 1998
p-Xylene	4.440	1	4.440	Oct. 22, 1998
s-Butyl Acetate	1.722	1	1.722	Oct. 22, 1998
s-Butyl Alcohol	1.701	1	1.701	Oct. 22, 1998
s-Butyl Benzene	2.103	1	2.103	Oct. 22, 1998
Styrene	2.516	1	2.516	Oct. 22, 1998
t-Butyl Acetate	0.207	1	0.207	Oct. 22, 1998

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1-Butyl Alcohol	0.498	1	0.498	Oct. 22, 1998
Tetrahydrofuran	5.611	1	5.611	Oct. 22, 1998
Tetrahydropyran	4.358	1	4.358	Oct. 22, 1998
Tetralin	1.949	1	1.949	Oct. 22, 1998
Tolualdehyde	0.000	1	0.000	Oct. 22, 1998
Toluene	4.188	1	4.188	Oct. 22, 1998
Trans 3-Methyl-2-Hexene	15.681	1	15.681	Oct. 22, 1998
Trans 4-Methyl-2-Hexene	8.316	1	8.316	Oct. 22, 1998
Trans-2-Butene	14.524	1	14.524	Oct. 22, 1998
Trans-2-Hexene	8.462	1	8.462	Oct. 22, 1998
Trans-2-Pentene	10.644	1	10.644	Oct. 22, 1998
Trans-3-Hexene	8.632	1	8.632	Oct. 22, 1998
Trimethylene Oxide	6.969	1	6.969	Oct. 22, 1998
Tripropylene Glycol Monomethyl Ether	3.034	1	3.034	Oct. 22, 1998
Undecyl Cyclopentane	0.000	1	0.000	Oct. 22, 1998
Xylene Isomer Mixture	7.777	1	7.777	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
1,1,1-Trichloroethane	0.090	2	0.180	Oct. 22, 1998
1,1,2-Trichloroethane	0.021	2	0.043	Oct. 22, 1998
1,1-Dichloroethane	0.023	2	0.045	Oct. 22, 1998
1,1-Dichloroethene	0.466	2	0.933	Oct. 22, 1998
1,2-Dichloropropane	0.072	2	0.144	Oct. 22, 1998
1,2-Dimethyl Cyclohexene	6.543	2	13.086	Oct. 22, 1998
1-Chlorobutane	0.240	2	0.481	Oct. 22, 1998
1-Decene	2.966	2	5.931	Oct. 22, 1998
1-Dodecene	2.272	2	4.544	Oct. 22, 1998
1-Heptanal	4.299	2	8.599	Oct. 22, 1998
1-Methyl Cyclohexene	7.986	2	15.972	Oct. 22, 1998
1-Methyl Cyclopentene	8.764	2	17.529	Oct. 22, 1998
1-Nonene	3.453	2	6.906	Oct. 22, 1998
1-Octanal	3.712	2	7.424	Oct. 22, 1998
1-Octene	4.079	2	8.157	Oct. 22, 1998
1-Pentadecene	1.686	2	3.373	Oct. 22, 1998
1-Tetradecene	1.842	2	3.685	Oct. 22, 1998
1-Tridecene	2.031	2	4.061	Oct. 22, 1998
1-Undecene	2.575	2	5.150	Oct. 22, 1998
2-(2-Butoxyethoxy)-Ethanol	3.357	2	6.714	Oct. 22, 1998
2-(Cloro-methyl)-3-Cloro-Propene	3.518	2	7.036	Oct. 22, 1998
2,3-Dimethyl-2-Hexene	7.822	2	15.643	Oct. 22, 1998
2,4,4-trimethyl-2-Pentene	6.084	2	12.167	Oct. 22, 1998
2-Butyne	10.609	2	21.217	Oct. 22, 1998

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2-Decanone	1.244	2	2.489	Oct. 22, 1998
2-Nonanone	1.501	2	3.003	Oct. 22, 1998
2-Octanone	1.889	2	3.778	Oct. 22, 1998
3-(Chloromethyl)-Heptane	0.239	2	0.478	Oct. 22, 1998
3,4-Diethyl-2-Hexene	3.960	2	7.920	Oct. 22, 1998
3-Methyl-2-Isopropyl-1-Butene	4.410	2	8.819	Oct. 22, 1998
3-Nonenes	5.012	2	10.023	Oct. 22, 1998
3-Octenes	5.887	2	11.775	Oct. 22, 1998
4-Methyl Cyclohexene	3.076	2	6.151	Oct. 22, 1998
Acrylonitrile	0.515	2	1.031	Oct. 22, 1998
alpha-Methyl Styrene	2.217	2	4.434	Oct. 22, 1998
Benzotrifluoride	0.284	2	0.567	Oct. 22, 1998
C10 3-Alkenes	4.281	2	8.562	Oct. 22, 1998
C10 Cyclic Ketones	1.099	2	2.198	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
C10 Cyclic or di-olefins	4.343	2	8.687	Oct. 22, 1998
C10 Disubstituted Benzenes	6.180	2	12.359	Oct. 22, 1998
C10 Internal Alkenes	4.281	2	8.562	Oct. 22, 1998
C10 Ketones	1.244	2	2.489	Oct. 22, 1998
C10 Styrenes	1.982	2	3.964	Oct. 22, 1998
C10 Terminal Alkenes	2.966	2	5.931	Oct. 22, 1998
C10 Tetrasubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998
C10 Trisubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998
C11 3-Alkenes	3.744	2	7.489	Oct. 22, 1998
C11 Cyclic or di-olefins	3.794	2	7.588	Oct. 22, 1998
C11 Disubstituted Benzenes	5.593	2	11.185	Oct. 22, 1998
C11 Internal Alkenes	3.744	2	7.489	Oct. 22, 1998
C11 Pentasubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998
C11 Pentasubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998
C11 Terminal Alkenes	2.575	2	5.150	Oct. 22, 1998
C11 Tetralin or Indane	1.761	2	3.523	Oct. 22, 1998
C11 Tetrasubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998
C11 Trisubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998
C12 2-Alkenes	3.348	2	6.695	Oct. 22, 1998
C12 3-Alkenes	3.348	2	6.695	Oct. 22, 1998
C12 Cyclic or di-olefins	3.388	2	6.776	Oct. 22, 1998
C12 Disubstituted Benzenes	5.112	2	10.224	Oct. 22, 1998
C12 Hexasubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998
C12 Internal Alkenes	3.348	2	6.695	Oct. 22, 1998
C12 Terminal Alkenes	2.272	2	4.544	Oct. 22, 1998
C12 Tetrasubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998

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C12 Trisubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998
C13 3-Alkenes	3.041	2	6.081	Oct. 22, 1998
C13 Cyclic or di-olefins	3.074	2	6.149	Oct. 22, 1998
C13 Disubstituted Benzenes	4.704	2	9.408	Oct. 22, 1998
C13 Disubstituted Naphthalenes	4.817	2	9.633	Oct. 22, 1998
C13 Internal Alkenes	3.041	2	6.081	Oct. 22, 1998
C13 Monosubstituted Naphthalene	3.729	2	7.458	Oct. 22, 1998
C13 Terminal Alkenes	2.031	2	4.061	Oct. 22, 1998
C13 Trisubstituted Benzenes	6.384	2	12.768	Oct. 22, 1998
C13 Trisubstituted Naphthalenes	4.817	2	9.633	Oct. 22, 1998
C14 3-Alkenes	2.783	2	5.565	Oct. 22, 1998
C14 Cyclic or di-olefins	2.811	2	5.623	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
C14 Internal Alkenes	2.783	2	5.565	Oct. 22, 1998
C14 Terminal Alkenes	1.842	2	3.685	Oct. 22, 1998
C15 3-Alkenes	2.569	2	5.138	Oct. 22, 1998
C15 Cyclic or di-olefins	2.594	2	5.188	Oct. 22, 1998
C15 Internal Alkenes	2.569	2	5.138	Oct. 22, 1998
C15 Terminal Alkenes	1.686	2	3.373	Oct. 22, 1998
C5 Cyclic Ketones	1.523	2	3.046	Oct. 22, 1998
C6 Cyclic or di-olefins	8.669	2	17.339	Oct. 22, 1998
C7 Aldehydes	4.299	2	8.599	Oct. 22, 1998
C7 Cyclic or di-olefins	7.083	2	14.166	Oct. 22, 1998
C8 Aldehydes	3.712	2	7.424	Oct. 22, 1998
C8 Cyclic Ketones	1.343	2	2.686	Oct. 22, 1998
C8 Cyclic or di-olefins	5.993	2	11.986	Oct. 22, 1998
C8 Internal Alkenes	5.916	2	11.832	Oct. 22, 1998
C8 Ketones	1.889	2	3.778	Oct. 22, 1998
C8 Terminal Alkenes	4.079	2	8.157	Oct. 22, 1998
C9 Cyclic Ketones	1.209	2	2.417	Oct. 22, 1998
C9 Cyclic or di-olefins	5.093	2	10.185	Oct. 22, 1998
C9 Internal Alkenes	5.012	2	10.023	Oct. 22, 1998
C9 Ketones	1.501	2	3.003	Oct. 22, 1998
C9 Styrenes	2.217	2	4.434	Oct. 22, 1998
C9 Terminal Alkenes	3.453	2	6.906	Oct. 22, 1998
Chloroform	0.008	2	0.015	Oct. 22, 1998
Cis-3-Heptene	7.075	2	14.149	Oct. 22, 1998
Cis-4-Octene	5.944	2	11.888	Oct. 22, 1998
Cis-5-Decene	4.299	2	8.597	Oct. 22, 1998
Cyclobutanone	0.725	2	1.450	Oct. 22, 1998
Cyclohexene	3.916	2	7.832	Oct. 22, 1998

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Cyclopentadiene	2.822	2	5.644	Oct. 22, 1998
Cyclopentanone	1.523	2	3.046	Oct. 22, 1998
Cyclopentene	2.738	2	5.477	Oct. 22, 1998
Dichloromethane	0.096	2	0.193	Oct. 22, 1998
Di-isobutyl Ketone (2,6-dimethyl-4-heptanone)	3.354	2	6.708	Oct. 22, 1998
Dimethyl Amine	6.118	2	12.235	Oct. 22, 1998
Dipropylene Glycol Methyl Ether	3.283	2	6.566	Oct. 22, 1998
Ethyl Acetylene	6.164	2	12.328	Oct. 22, 1998
Ethyl Acrylate	1.460	2	2.920	Oct. 22, 1998
Ethyl Amine	6.365	2	12.729	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
Ethyl Chloride	0.053	2	0.106	Oct. 22, 1998
Ethylene Dibromide	0.093	2	0.186	Oct. 22, 1998
Ethylene Dichloride	0.177	2	0.353	Oct. 22, 1998
Furan	7.175	2	14.349	Oct. 22, 1998
Indan	2.180	2	4.360	Oct. 22, 1998
Methyl Acetylene	6.702	2	13.404	Oct. 22, 1998
Methyl Acrylate	1.699	2	3.398	Oct. 22, 1998
Methyl Bromide	0.004	2	0.008	Oct. 22, 1998
Methyl Chloride	0.008	2	0.015	Oct. 22, 1998
Methyl Propionate	0.602	2	1.204	Oct. 22, 1998
Methylene Bromide	0.007	2	0.014	Oct. 22, 1998
Monochlorobenzene	0.395	2	0.789	Oct. 22, 1998
n-Butyl Bromide	0.000	2	0.000	Oct. 22, 1998
Nitrobenzene	0.073	2	0.147	Oct. 22, 1998
n-Propyl Bromide	0.000	2	0.000	Oct. 22, 1998
o-Dichlorobenzene	0.221	2	0.443	Oct. 22, 1998
Perchloroethylene	0.116	2	0.232	Oct. 22, 1998
Phenol	1.856	2	3.713	Oct. 22, 1998
Propylene Glycol t-Butyl-1-Ether	2.630	2	5.259	Oct. 22, 1998
Propylene Glycol t-Butyl-2-Ether	2.224	2	4.448	Oct. 22, 1998
p-Trifluoromethyl-Chloro-Benzene	0.122	2	0.243	Oct. 22, 1998
Sabinene	3.702	2	7.404	Oct. 22, 1998
Trans 2,2-Dimethyl 3-Hexene	6.005	2	12.009	Oct. 22, 1998
Trans 2,5-Dimethyl 3-Hexene	6.096	2	12.192	Oct. 22, 1998
Trans 4,4-Dimethyl-2-Hexene	7.006	2	14.012	Oct. 22, 1998
Trans-1,2-Dichloroethene	0.145	2	0.291	Oct. 22, 1998
Trans-2-Heptene	6.938	2	13.876	Oct. 22, 1998
Trans-3-Heptene	7.075	2	14.149	Oct. 22, 1998
Trans-3-Octene	5.887	2	11.775	Oct. 22, 1998
Trans-4-Decene	4.281	2	8.562	Oct. 22, 1998
Trans-4-Nonene	5.012	2	10.024	Oct. 22, 1998

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Trans-4-Octene	5.885	2	11.770	Oct. 22, 1998
Trans-5-Dodecene	3.347	2	6.695	Oct. 22, 1998
Trans-5-Tetradecene	2.569	2	5.138	Oct. 22, 1998
Trans-5-Tetradecene	2.783	2	5.565	Oct. 22, 1998
Trans-5-Tridecene	3.041	2	6.081	Oct. 22, 1998
Trans-5-Undecene	3.744	2	7.489	Oct. 22, 1998
Trichloroethylene	0.001	2	0.001	Oct. 22, 1998
VOC Ingredient (Table Continued)	Absolute MIR	Uncertainty Factor	Adjusted MIR	Effective Date
Trimethyl Amine	7.308	2	14.617	Oct. 22, 1998
Vinyl Acetate	1.699	2	3.398	Oct. 22, 1998
Vinyl Chloride	0.633	2	1.265	Oct. 22, 1998
1,1-Difluoroethane (HFC-152a)	0.000	1	0.000	Oct. 22, 1998
1,1,1,2-Tetrafluoroethane (HFC-134a)	0.000	1	0.000	Oct. 22, 1998
Volatile Methylated Siloxanes	0.000	1	0.000	Oct. 22, 1998
2-amino-2-methyl-1-propanol*	12.923	1	12.923	Oct. 22, 1998
2-Butoxy-ethyl acetate*	9.587	1	9.587	Oct. 22, 1998
2-Methoxy-1-propanol*	12.782	1	12.782	Oct. 22, 1998
2-Methoxy-1-propyl acetate*	11.621	1	11.621	Oct. 22, 1998
Diethanolamine*	15.979	1	15.979	Oct. 22, 1998
Ethanolamine*	17.289	1	17.289	Oct. 22, 1998
sophorone*	11.114	1	11.114	Oct. 22, 1998
Morpholine*	13.223	1	13.223	Oct. 22, 1998
Oxime 2-butanone*	13.221	1	13.221	Oct. 22, 1998
Triethanolamine*	11.261	1	11.261	Oct. 22, 1998
Triethylamine*	15.179	1	15.179	Oct. 22, 1998
Trimethylolpropane*	7.464	1	7.464	Oct. 22, 1998

\* Denotes calculated ULMIR

## (2) Hydrocarbon Solvents

Bin	Boiling Range (degrees F)	Aromatic Content	Uncertainty Factor	Adjusted MIR	Effective Date
Bin 1	100-240	0% to less than 2%	1	1.8	Oct. 22, 1998
Bin 1A	100-240	2% to less than 5%	1	1.9	Oct. 22, 1998
Bin 1B	100-240	5% to less than 10%	1	2.0	Oct. 22, 1998
Bin 1C	100-240	10% to less than 15%	1	2.2	Oct. 22, 1998
Bin 1D	100-240	15% to less than 20%	1	2.3	Oct. 22, 1998
Bin 1E	100-240	20% to less than 25%	1	2.4	Oct. 22, 1998
Bin 1F	100-240	greater than 90% normal alkanes	1	1.6	Oct. 22, 1998
Bin 1G	100-240	greater than 90% cycloalkanes	1	2.4	Oct. 22, 1998

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Bin	Boiling Range (degrees F)	Aromatic Content	Uncertainty Factor	Adjusted MIR	Effective Date
Bin 1H	100-240	greater than 90% isoalkanes	1	2.3	Oct. 22, 1998
Bin 2	240-310	0% to less than 2%	1	1.7	Oct. 22, 1998
Bin 2A	240-310	2% to less than 5%	1	2.0	Oct. 22, 1998
Bin 2B	240-310	5% to less than 10%	1	2.3	Oct. 22, 1998
Bin 2C	240-310	10% to less than 15%	1	2.6	Oct. 22, 1998
Bin 2D	240-310	greater than 90% normal alkanes	1	1.3	Oct. 22, 1998
Bin 2E	240-310	greater than 90% cycloalkanes	1	1.9	Oct. 22, 1998
Bin 2F	240-310	greater than 90% isoalkanes	1	1.8	Oct. 22, 1998
Bin 3	310-415	0% to less than 2%	1	1.1	Oct. 22, 1998
Bin 3A	310-415	2% to less than 5%	1	1.4	Oct. 22, 1998
Bin 3B	310-415	5% to less than 10%	1	1.7	Oct. 22, 1998
Bin 3C	310-415	10% to less than 15%	1	1.9	Oct. 22, 1998
Bin 3D	310-415	15% to less than 20%	1	2.2	Oct. 22, 1998
Bin 3E	310-415	20% to less than 25%	1	2.5	Oct. 22, 1998
Bin 3F	310-415	greater than 90% normal alkanes	1	0.8	Oct. 22, 1998
Bin 3G	310-415	greater than 90% cycloalkanes	1	1.4	Oct. 22, 1998
Bin 3H	310-415	greater than 90% isoalkanes	1	1.2	Oct. 22, 1998
Bin 4	415-600	0% to less than 2%	1	0.9	Oct. 22, 1998
Bin 4A	415-600	2% to less than 5%	1	1.2	Oct. 22, 1998
Bin 4B	415-600	5% to less than 10%	1	1.4	Oct. 22, 1998
Bin 4C	415-600	10% to less than 15%	1	1.7	Oct. 22, 1998
Bin 4D	415-600	greater than 90% normal alkanes	1	0.6	Oct. 22, 1998
Bin 4E	415-600	greater than 90% cycloalkanes	1	0.9	Oct. 22, 1998
Bin 4F	415-600	greater than 90% isoalkanes	1	0.9	Oct. 22, 1998
Bin 5A	300-355	Aromatics	1	7.0	Oct. 22, 1998
Bin 5B	355-420	Aromatics	1	6.8	Oct. 22, 1998
Bin 5C	420-550	Aromatics	1	6.0	Oct. 22, 1998

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.

## 94534. Exemptions

All of the exemptions specified in section 94523 shall apply.

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.

## 94535. Administrative Requirements

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- (a) For the purposes of this article, all of the provisions in section 94524(a), (c)(4), (d) and (e) shall apply. The provisions in section 94524(b) shall not apply.

- (b) **Labeling Requirements**

- (1) Both the manufacturer and responsible party for each aerosol coating product subject to this article shall ensure that all products clearly display the following information on each product container which is manufactured after the effective date of this article:
    - (A) the applicable CLEAR limit for the product that is specified in section 94532(a)(2);
    - (B) the aerosol coating category as defined in section 94521(a), or an abbreviation of the coating category; and
    - (C) the day, month, and year on which the product was manufactured, or a code indicating such date.
  - (2) The information required in section 94535(b)(1), shall be displayed on the product container such that it is readily observable without removing or disassembling any portion of the product container or packaging. For the purposes of this subsection, information may be displayed on the bottom of a container as long as it is clearly legible without removing any product packaging.
  - (3) No person shall remove, alter, conceal, or deface the information required in section 94535(b)(1) prior to final sale of the product.
  - (4) For any aerosol coating product subject to section 94532(a)(2), if the manufacturer or responsible party uses a code indicating the date of manufacture or an abbreviation of the coating category as defined in section 94521(a), an explanation of the code or abbreviation must be filed with the Executive Officer prior to the use of the code or abbreviation.

- (c) **Reporting Requirements**

- (1) Any responsible party selling products meeting the CLEAR limits in section 94532(a)(2), shall, within 60 days of offering for sale, submit to the Executive Officer of the Air Resources Board a report containing all of the following information:



- (A) A statement indicating which products will comply with the requirements of this Article 3.1 instead of Article 3.
  - (B) the company name, mailing address, contact person, and the telephone number of the contact person.
- (2) Upon 90 days written notice, each manufacturer or responsible party subject to this article shall submit to the Executive Officer a written report with all of the following information for each product they manufacture under their name or another company's name:
- (A) the brand name of the product;
  - (B) upon request, a copy of the product label;
  - (C) the owner of the trademark or brand names;
  - (D) the product category as defined in section 94521;
  - (E) the annual California sales in pounds per year and the method used to calculate California annual sales;
  - (F) the PWMIR and the percent by weight of all ingredients including; water, solids, each VOC ingredient, and any compounds assigned a MIR value of zero as specified in section 94533(a-c);
  - (G) an identification of each product brand name as a “household,” “industrial,” or “both” product; and
  - (H) any other information necessary to determine the emissions from aerosol coating products.

The information requested in this section (c)(2) may be supplied as an average for a group of aerosol coating products within the same coating category when the products do not vary in VOC content by more than two percent (by weight), and the coatings are based on the same resin type, or the products are color variations of the same product (even if the coatings vary by more than 2 percent in VOC content).

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.

**94536. Variances**

- (a) Any person who cannot comply with the requirements set forth in section 94532, because of extraordinary reasons beyond the person's reasonable control may apply in writing to the Executive Officer for a variance. The variance application shall set forth:
  - (1) the specific grounds upon which the variance is sought;

- (2) the proposed date(s) by which compliance with the provisions of section 94532 will be achieved, and
  - (3) a compliance report reasonably detailing the method(s) by which compliance will be achieved.
- (b) Upon receipt of a variance application containing the information required in subsection (a), the Executive Officer shall hold a public hearing to determine whether, under what conditions, and to what extent, a variance from the requirements in section 94532 is necessary and will be permitted. A hearing shall be initiated no later than 75 working days after receipt of a variance application. Notice of the time and place of the hearing shall be sent to the applicant by certified mail not less than 30 days prior to the hearing. Notice of the hearing shall also be submitted for publication in the California Regulatory Notice Register and sent to every person who requests such notice, not less than 30 days prior to the hearing. The notice shall state that the parties may, but need not be, represented by counsel at the hearing. At least 30 days prior to the hearing, the variance application shall be made available to the public for inspection. Information submitted to the Executive Officer by a variance applicant may be claimed as confidential, and such information shall be handled in accordance with the procedures specified in Title 17, California Code of Regulations, sections 91000-91022. The Executive Officer may consider such confidential information in reaching a decision on a variance application. Interested members of the public shall be allowed a reasonable opportunity to testify at the hearing and their testimony shall be considered.
- (c) No variance shall be granted unless all of the following findings are made:
- (1) that, because of reasons beyond the reasonable control of the applicant, requiring compliance with Section 94532 would result in extraordinary economic hardship.
  - (2) that the public interest in mitigating the extraordinary hardship to the applicant by issuing the variance outweighs the public interest in avoiding any increased emissions of air contaminants which would result from issuing the variance.
  - (3) that the compliance report proposed by the applicant can reasonably be implemented, and will achieve compliance as expeditiously as possible.
- (d) Any variance order shall specify a final compliance date by which the requirements of Section 94532 will be achieved. Any variance order shall contain a condition that specifies increments of progress necessary to assure timely compliance, and such other conditions that the Executive Officer, in consideration of the testimony received at the hearing, finds necessary to carry out the purposes of Division 26 of the Health and Safety Code.
- (e) A variance shall cease to be effective upon failure of the party to whom the variance was

granted to comply with any term or condition of the variance.

- (f) Upon the application of any person, the Executive Officer may review, and for good cause, modify or revoke a variance from the requirements of section 94532 after holding a public hearing in accordance with the provisions of subsection 94536(b).

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.

**94537. Test Methods**

Compliance with the requirements of this article shall be determined by using the applicable test methods found in section 94526, which are incorporated by reference herein.

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.

**94538. Severability**

Each part of this article shall be deemed severable, and in the event that any part of this article is held to be invalid, the remainder of this article shall continue in full force and effect.

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.

**94539. Federal Enforceability**

For purposes of federal enforceability of this article, the United States Environmental Protection Agency is not subject to approval determinations made by the Executive Officer under section 94536 and 94537. Within 180 days of a request from a person who has been granted a variance under section 94536, a variance meeting the requirements of the Clean Air Act shall be submitted by the Executive Officer to the Environmental Protection Agency for inclusion in the applicable implementation plan approved or promulgated by the Environmental Protection Agency pursuant to section 110 of the Clean Air Act, 42 U.S.C., section 7410.

NOTE: Authority cited: section 39600, 39601, and 41712, Health and Safety Code. Reference: sections 39002, 39600, 40000, and 41712, Health and Safety Code.